CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/WNo.08/KVS/CSR-05/049a/CEMENT/2016-17 Date: 28.05.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
*AGENCY	:	**Mr. K.V. Subbareddy,** No. 106/B, Ashwathnagara, RMV 2nd Stage, Bangalore - 94.
*NAME OF THE WORK	:	Construction of balance works to Division Office Building in Sahakaranagara D Block in Ward No. 8, Kodigehalli, BBMP, Bangalore.
REFERENCE	:	BBMP/EE/BTP/WO/39/2016-17 Dated: 26.05.2016
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	26.05.2016
PERIOD OF TESTING	:	26.05.2016 to 28.05.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	27.50 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	160 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	475 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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VISHWANATH. I.A.
Chief Executive Officer

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/WNo.08/KVS/CSR-05/049a/SAND-Gradation/2016-17 : 28.05.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. K.V. Subbareddy,**
No. 106/B, Ashwathnagara, RMV 2nd Stage, Bangalore - 94.

*** Name of Work** : Construction of balance works to Division Office Building in Sahakaranagara D Block in Ward No. 8, Kodigehalli, BBMP, Bangalore.

Reference : BBMP/EE/BTP/WO/39/2016-17 Dated: 26.05.2016

Technical Reference : IS : 2386 Part 1 - 1963 RA-2007

Sample ID : Fine Aggregates

Sample Received on : 26.05.2016

Date of Testing : 28.05.2016

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	93.52	90-100	90-100	90-100	95-100
2.36	77.29	60-95	75-100	85-100	95-100
1.18	46.05	30-70	55-90	75-100	90-100
600 Micron	20.58	15-34	35-59	60-79	80-100
300 Micron	8.75	5-20	8-30	12-40	15-50
150 Micron	2.48	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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Job No.: CTCE/BBMP/WNo.08/KVS/CSR-05/049a/AGG/GR/2016-17 : 28.05.2016

TEST REPORT ON COARSE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	: **Mr. K.V. Subbareddy,** No. 106/B, Ashwathnagara, RMV 2nd Stage, Bangalore - 94.
* Name of Work	: Construction of balance works to Division Office Building in Sahakaranagara D Block in Ward No. 8, Kodigehalli, BBMP, Bangalore.
Reference	: BBMP/EE/BTP/WO/39/2016-17 Dated: 26.05.2016
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (40mm)
Sample Received on	: 26.05.2016
Date of Testing	: 28.05.2016

Total Wt. of Aggregates in gms= **7000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	96.61	95-100	85-100
20	34.77	30-70	0-20
10	12.66	10-35	0-5
4.75	1.81	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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Job No.: CTCE/BBMP/WNo.08/KVS /STEEL/2016-17

28.05.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	:	**Mr. K.V. Subbareddy,** No. 106/B, Ashwathnagara, RMV 2nd Stage, Bangalore - 94.
Name of the Work	:	Construction of balance works to Division Office Building in Sahakaranagara D Block in Ward No. 8, Kodigehalli, BBMP, Bangalore.
Reference	:	BBMP/EE/BTP/WO/39/2016-17 Dated: 26.05.2016
Date of Test	:	28.05.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	10	0.62	514	557	13.30	O.K	O.K

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Civil-Tech Consultants & Engineers Bangalore

M/s. Civil-Tech Consultants & Engineers
23/14, 7th Cross, 3rd Stage,
4th Block, Shakthiganapathinagara,
Basaveshwaranagar,
Bangalore-560079.

****

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T-2377

Job No.: CTCE/BBMP/WNo.08/KVS/CSR-05/049a/Bricks/2016-17 : 28.05.2016

TEST REPORT ON WATER ABSORPTION OF BRICKS

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. K.V. Subbareddy,**
No. 106/B, Ashwathnagara, RMV 2nd Stage, Bangalore - 94.

*** Name of the work** : Construction of balance works to Division Office Building in Sahakaranagara D Block in Ward No. 8, Kodigehalli, BBMP, Bangalore.

Reference : BBMP/EE/BTP/WO/39/2016-17 Dated: 26.05.2016

Sample ID/Type of Test : Bricks / Water Absorption of Bricks

Technical Reference : IS: 3495(Part-2)- 1992 (RA-2007)

Sample Received on : 26.05.2016

Date of Testing : 28.05.2016

Sl.No.	Size of Bricks in mm	Dry weight in gms	Wet weight in gms	Water abosorption in %	Average Water absorption in %	Allowable Water absorbtion as per IS: 1077:1992 Clause 7.2)
1	220x100x70	3195	3428	7.29	7.53	Not exceeding 20%
2	220x100x70	3295	3463	5.10		
3	220x100x70	3241	3478	7.31		
4	220x100x70	3246	3527	8.66		
5	220x100x70	3290	3595	9.27		

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Job No.: CTCE/BBMP/WNo.08/KVS/CSR-05/049a/Bricks/2016-17 : 28.05.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF BRICKS

*Customer : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*Agency : **Mr. K.V. Subbareddy,**
No. 106/B, Ashwathnagara, RMV 2nd Stage, Bangalore - 94.

*Name of the work : Construction of balance works to Division Office Building in Sahakaranagara D Block in Ward No. 8, Kodigehalli, BBMP, Bangalore.

Reference : BBMP/EE/BTP/WO/39/2016-17 Dated: 26.05.2016

Sample ID/Type of test : Bricks / Compressive Strength of Bricks

Technical Reference : IS: 3495(Part-1)- 1992 (RA-2007)

Sample Received on : 26.05.2016

Date of Testing : 28.05.2016

Sl.No.	Size of Bricks are in mm	Weight of Bricks in gms	Failure load in KN	Compressive Strength (N/mm^2)	Average Compressive Strength (N/mm^2)	Class Designation (As per IS: 1077:1992 Table 1)
1	220x100x70	3557.00	128.5	5.84	5.93	5.00
2	220x100x70	3672.00	130.4	5.93		
3	220x100x70	3723.00	131.6	5.98		
4	220x100x70	3745.00	129.7	5.90		
5	220x100x70	3758.00	132.4	6.02		

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Job No.: CTCE/BBMP/WNo.08/KVS/CSR-05/049a/CUBE/2016-17 28.06.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	: **Mr. K.V. Subbareddy,** No. 106/B, Ashwathnagara, RMV 2nd Stage, Bangalore - 94.
* Name of the work	: Construction of balance works to Division Office Building in Sahakaranagara D Block in Ward No. 8, Kodigehalli, BBMP, Bangalore.
Reference	: BBMP/EE/BTP/WO/39/2016-17 Dated: 26.05.2016
* Sample ID	: Cement Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 28.06.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	31.05.2016	28.06.2016	8.116	472.7	21.01
2	31.05.2016	28.06.2016	8.218	491.3	21.84
3	31.05.2016	28.06.2016	8.325	515.9	22.93

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Reference	: BBMP/EE/BTP/WO/39/2016-17 Dated: 26.05.2016
* Sample ID	: Cement Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 28.06.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	31.05.2016	28.06.2016	8.218	486.9	21.64
2	31.05.2016	28.06.2016	8.343	498.8	22.17
3	31.05.2016	28.06.2016	8.427	514.2	22.85

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Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 28.06.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	31.05.2016	28.06.2016	8.182	479.6	21.32
2	31.05.2016	28.06.2016	8.268	493.4	21.93
3	31.05.2016	28.06.2016	8.373	513.2	22.81

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